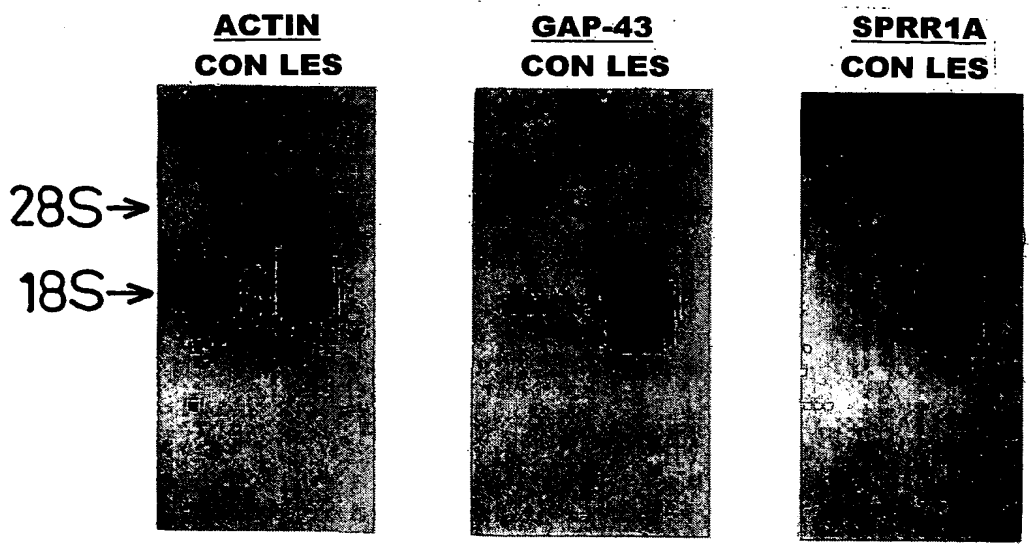

ACTIN
CON LES
GAP-43
CON LES
SPRR1A
CON LES
28S→
18S→

FIG.1A

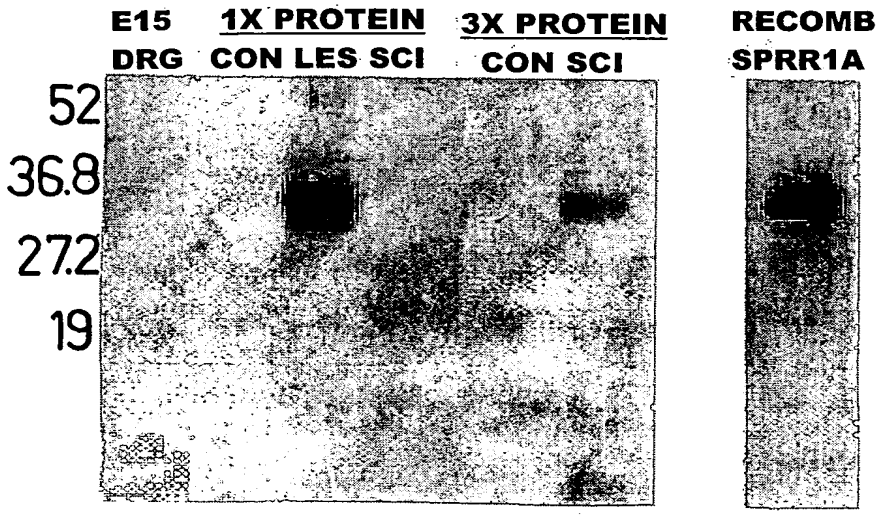
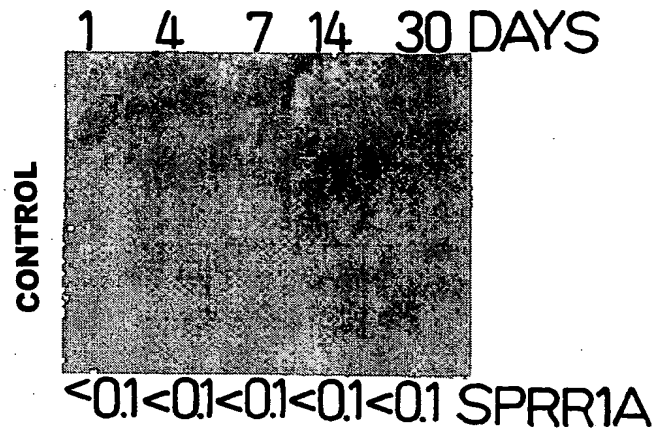
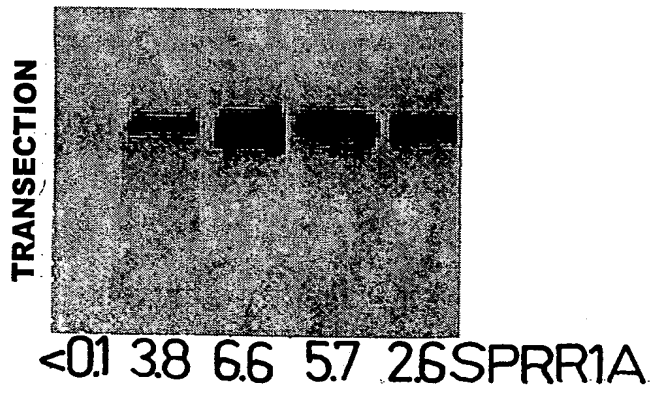

E15
DRG
1X PROTEIN
CON LES SCI
3X PROTEIN
CON SCI
RECOMB
SPRR1A
52
36.8
27.2
19

FIG.1B


1 4 7 14 30 DAYS
CONTROL
<0.1<0.1<0.1<0.1<0.1 SPRR1A


TRANSECTION
<0.1 3.8 6.6 5.7 2.6SPRR1A

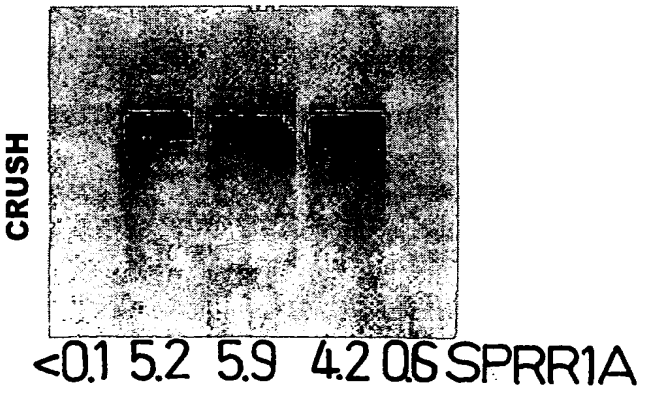

CRUSH
<0.1 5.2 5.9 4.2 0.6 SPRR1A

FIG.1C

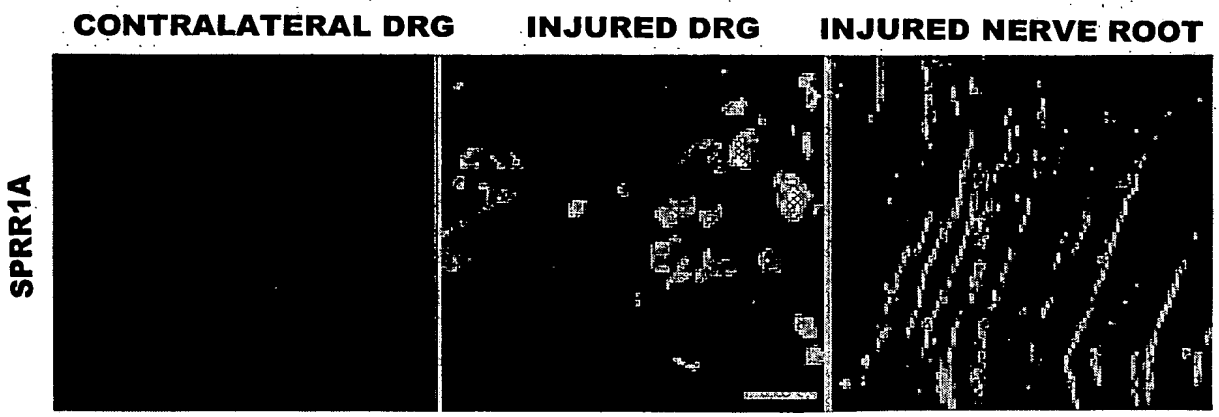

CONTRALATERAL DRG
INJURED DRG
INJURED NERVE ROOT
SPRR1A

FIG.2A

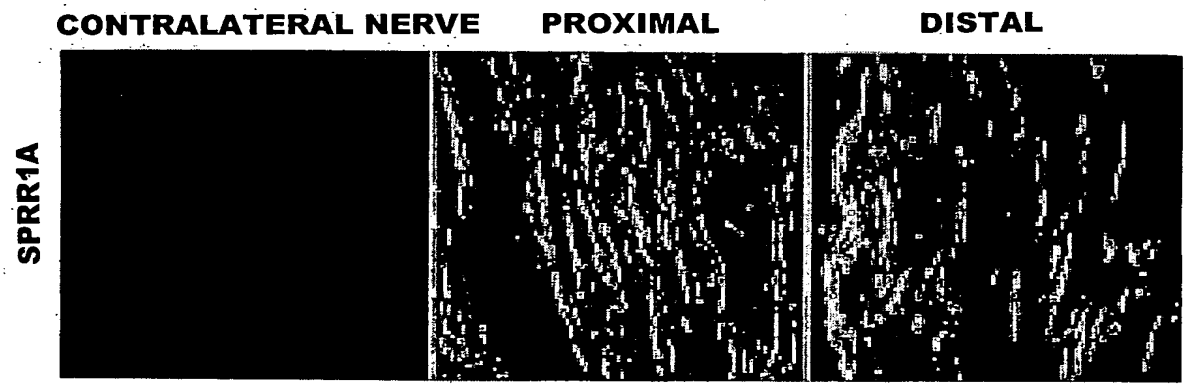

CONTRALATERAL NERVE
PROXIMAL
DISTAL
SPRR1A

FIG.2B

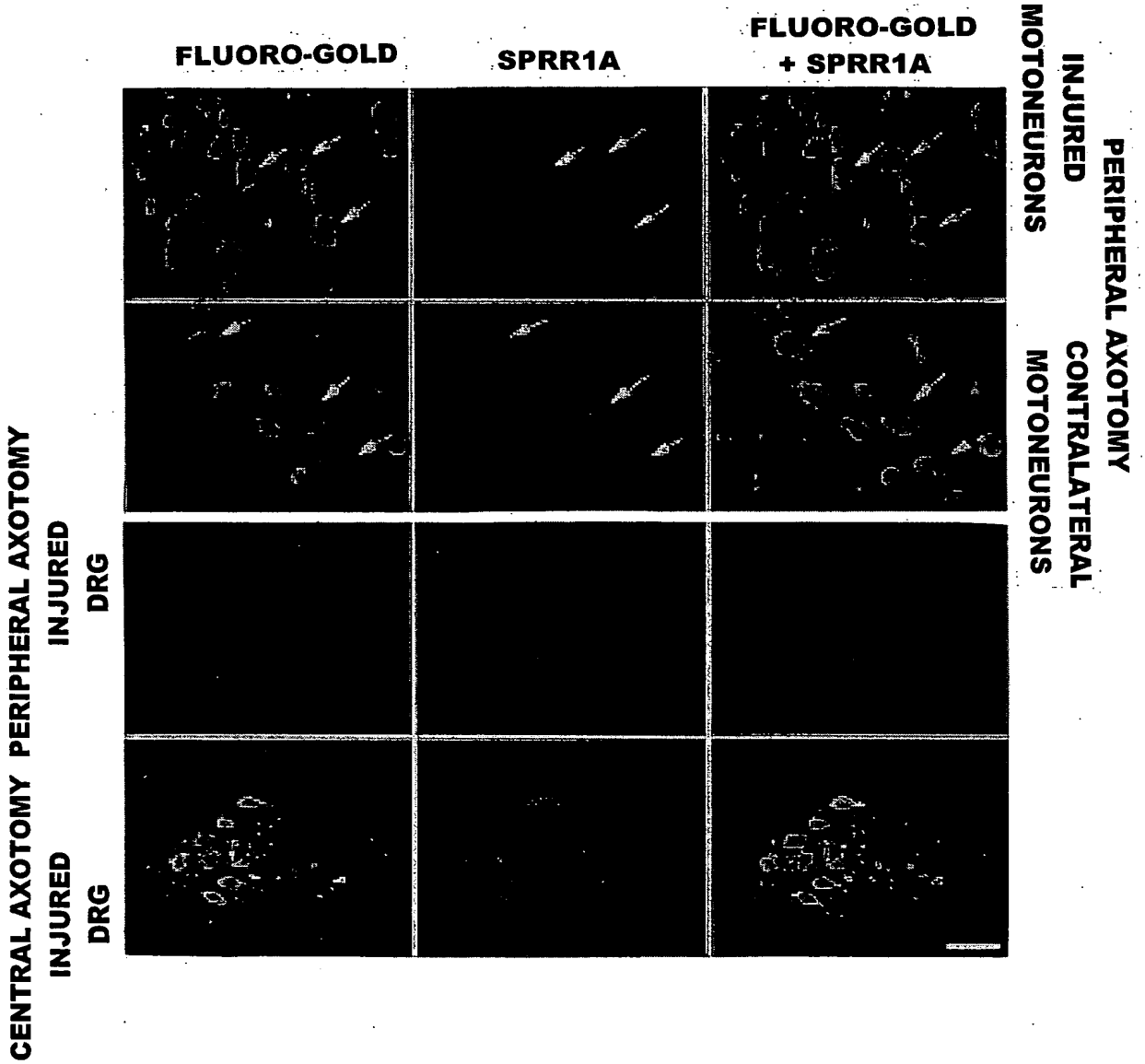

FLUORO-GOLD
SPRR1A
FLUORO-GOLD + SPRR1A
PERIPHERAL AXOTOMY
INJURED MOTONEURONS
CONTRALATERAL MOTONEURONS
PERIPHERAL AXOTOMY
INJURED DRG
CENTRAL AXOTOMY
INJURED DRG

FIG.2C

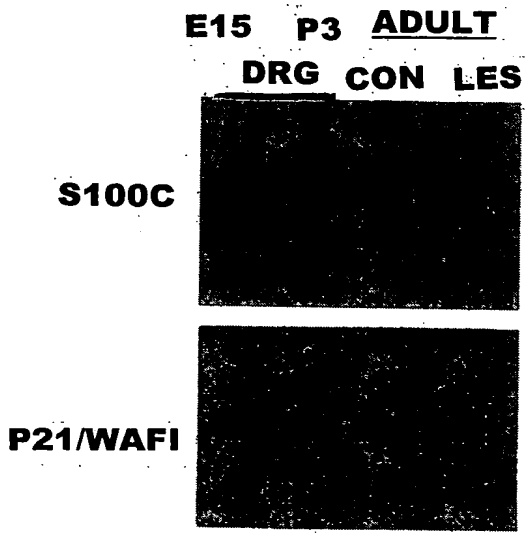

E15
P3
ADULT
DRG
CON
LES
S100C
P21/WAFI

FIG.3A

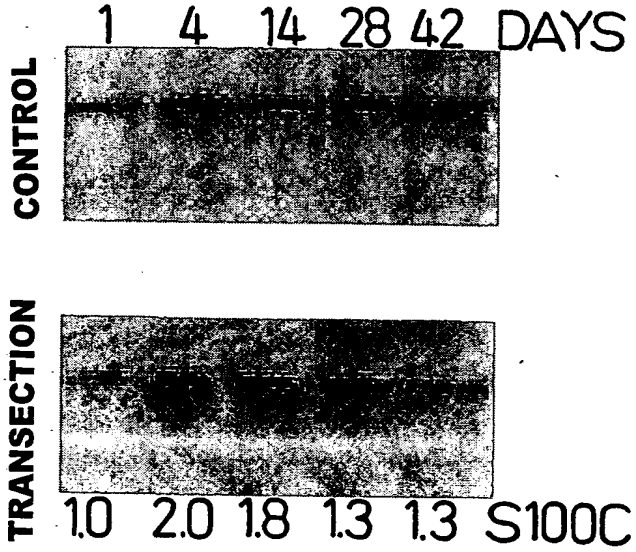

1
4
14
28
42
DAYS
CONTROL
TRANSECTION
1.0
2.0
1.8
1.3
1.3
S100C

FIG.3B

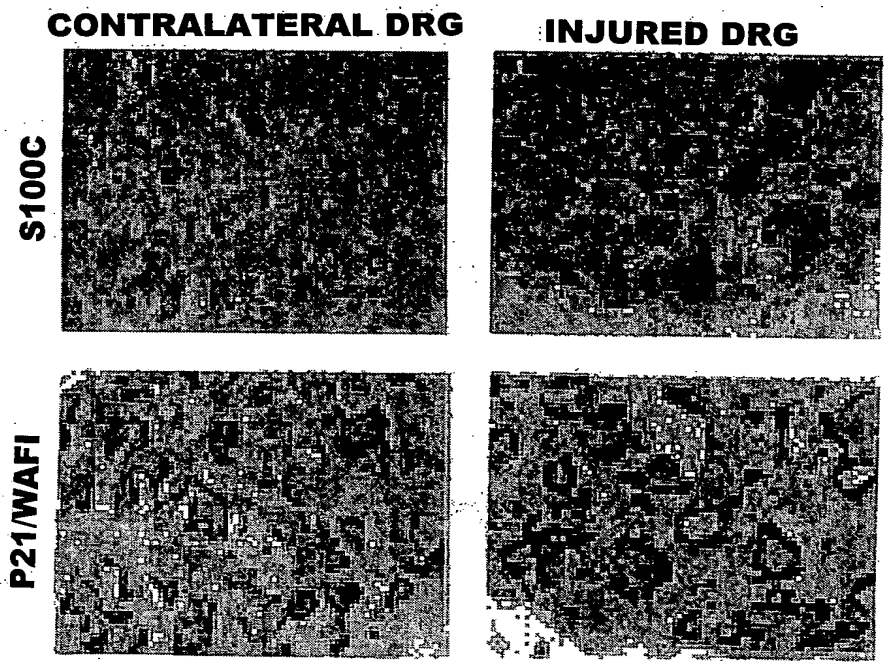

CONTRALATERAL DRG
INJURED DRG
S100C
P21/WAFI

FIG.3C

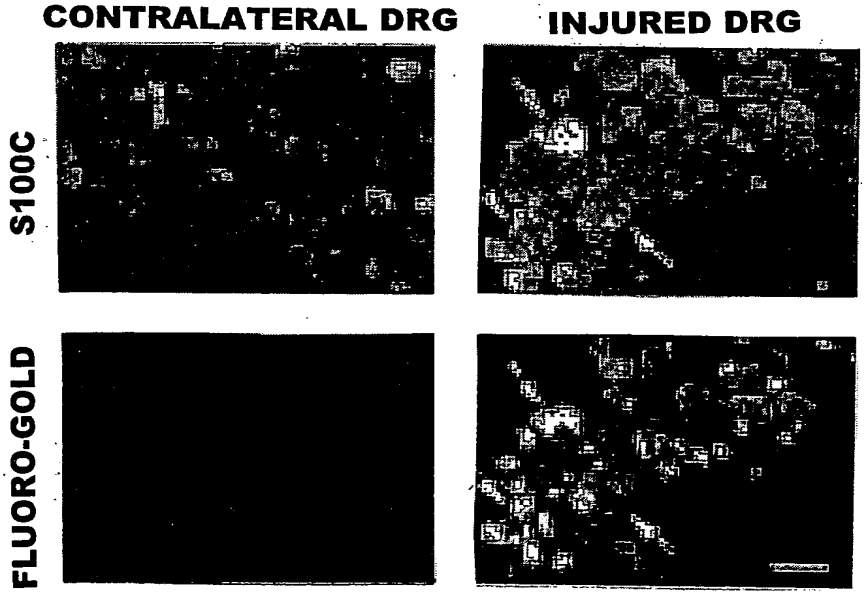

CONTRALATERAL DRG
INJURED DRG
S100C
FLUORO-GOLD

FIG.3D

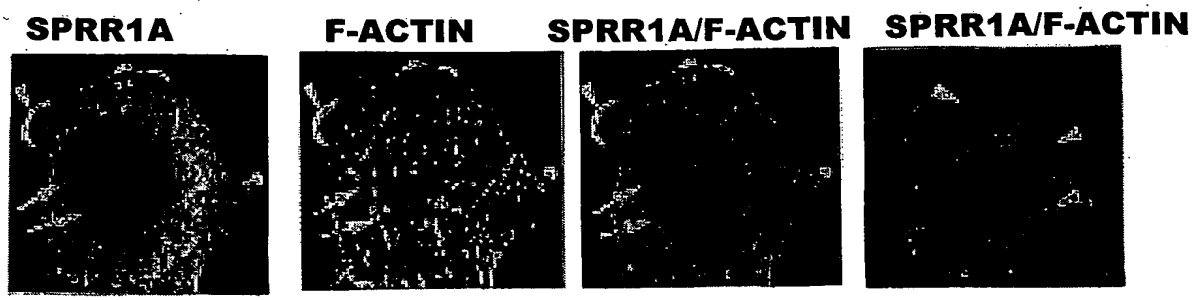


FIG. 4A

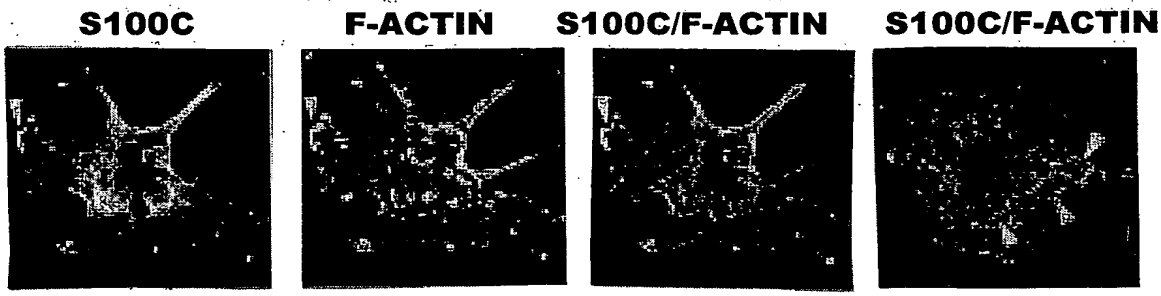


FIG. 4B

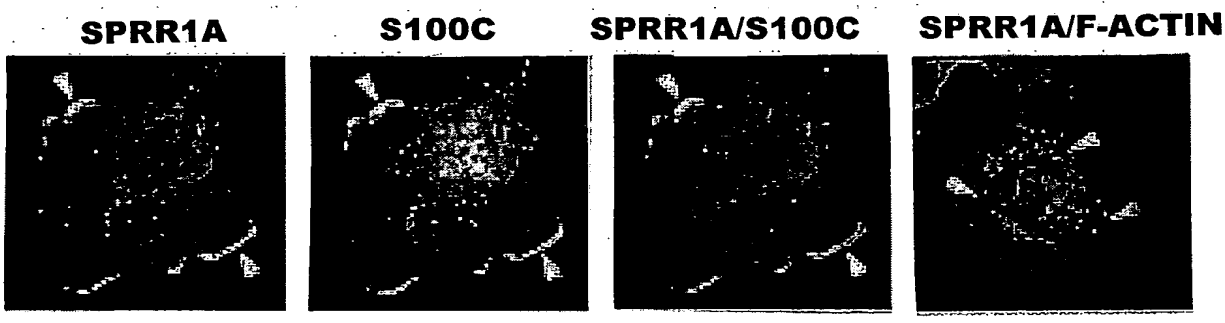


FIG. 4C

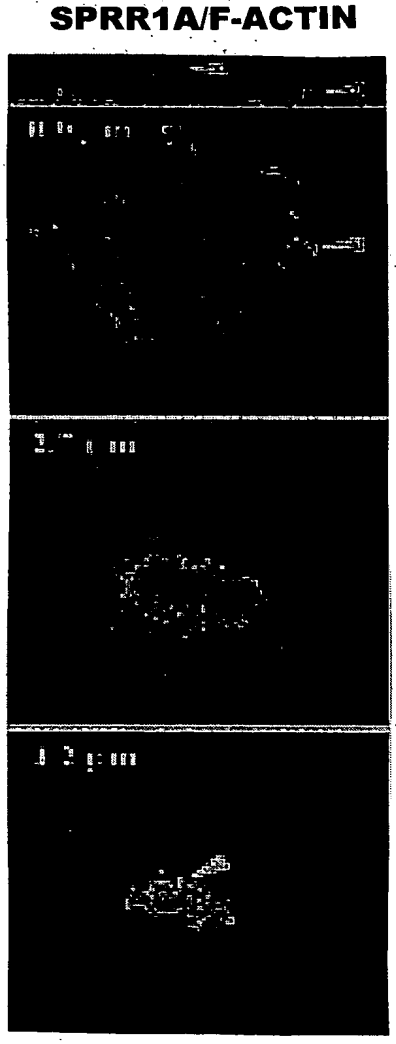


FIG.4D

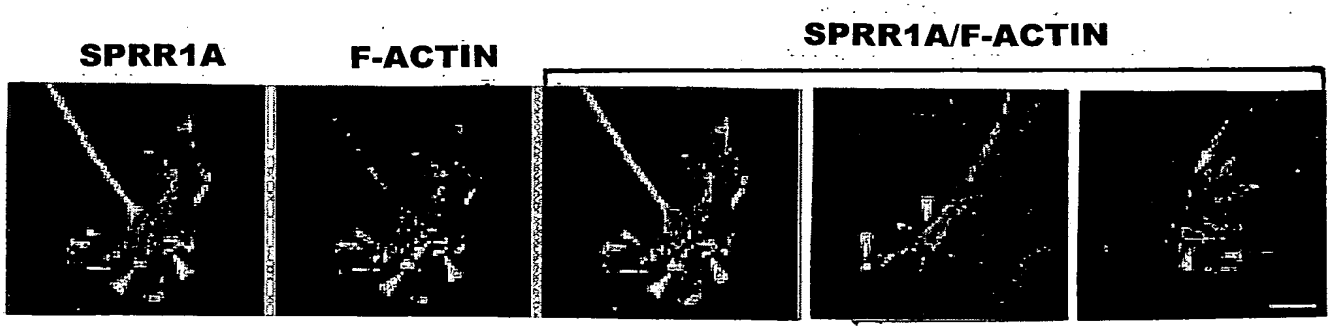


FIG.4E

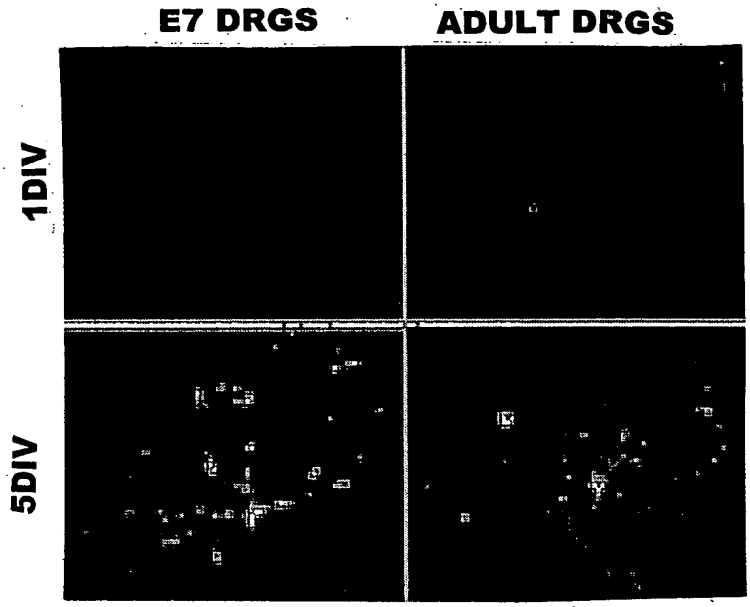


FIG. 5A

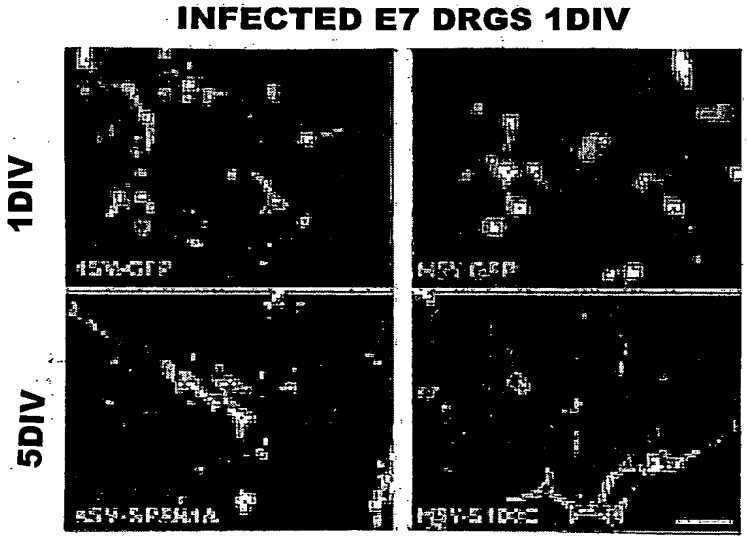


FIG. 5B

FIG.5C

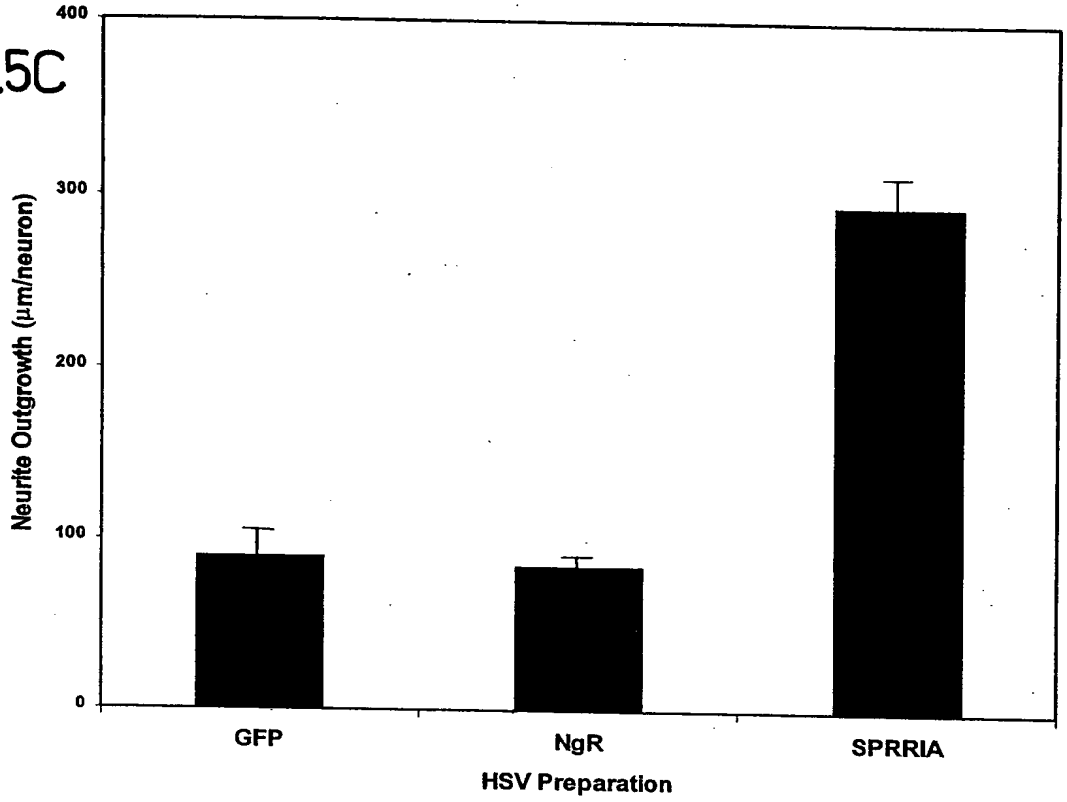

400
300
200
100
0
Neurite Outgrowth (μm/neuron)
GFP
NgR
SPRRIA
HSV Preparation

FIG.5D

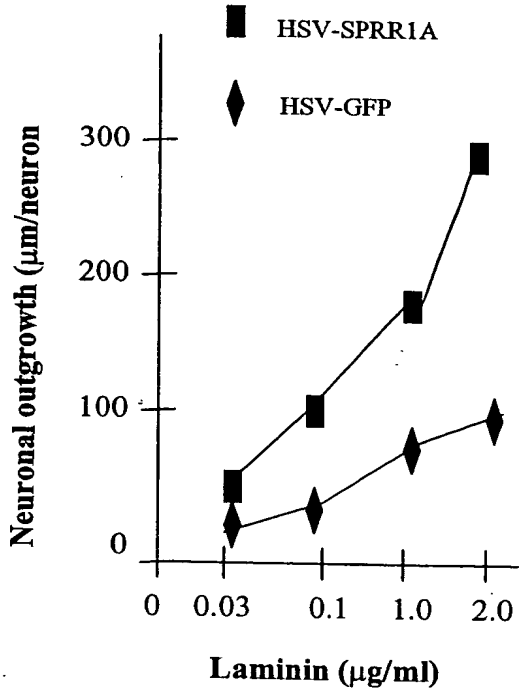

HSV-SPRR1A
HSV-GFP
300
200
100
0
Neuronal outgrowth (μm/neuron
0
0.03
0.1
1.0
2.0
Laminin (μg/ml)

FIG.5E

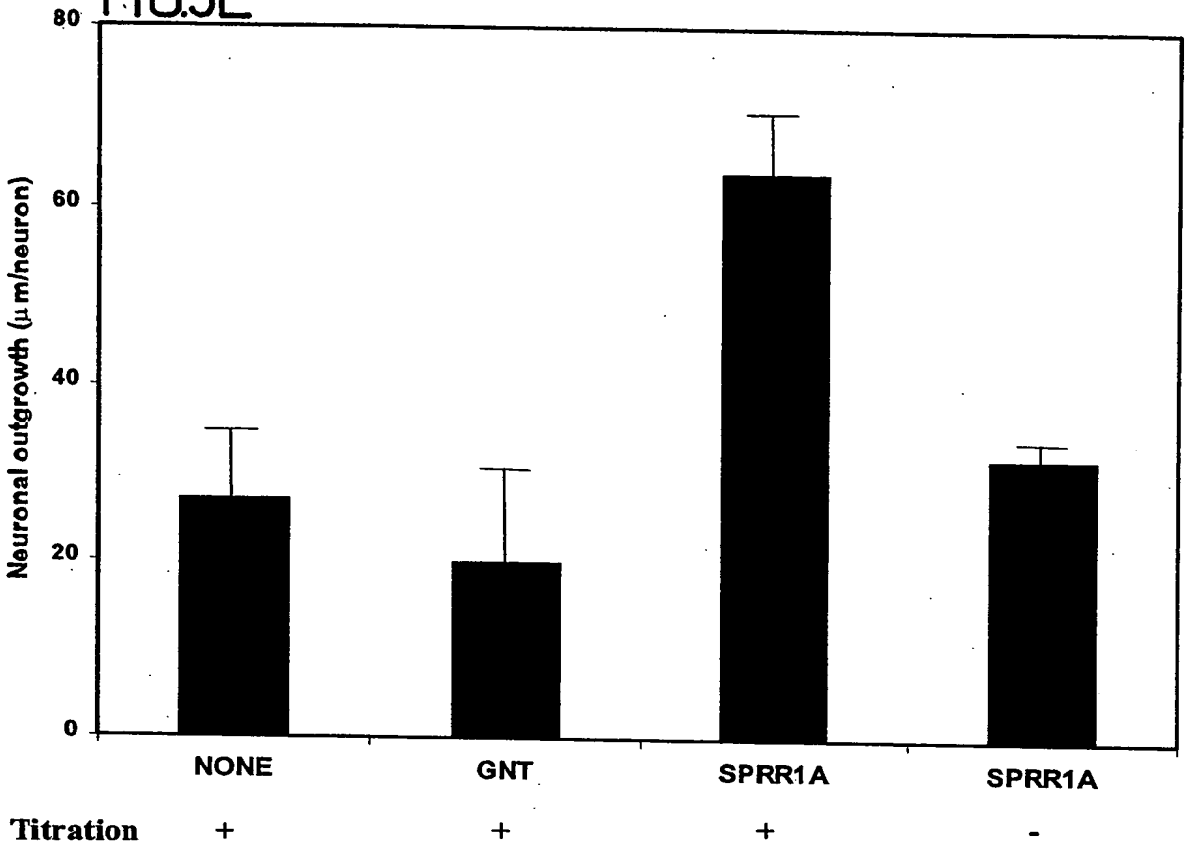
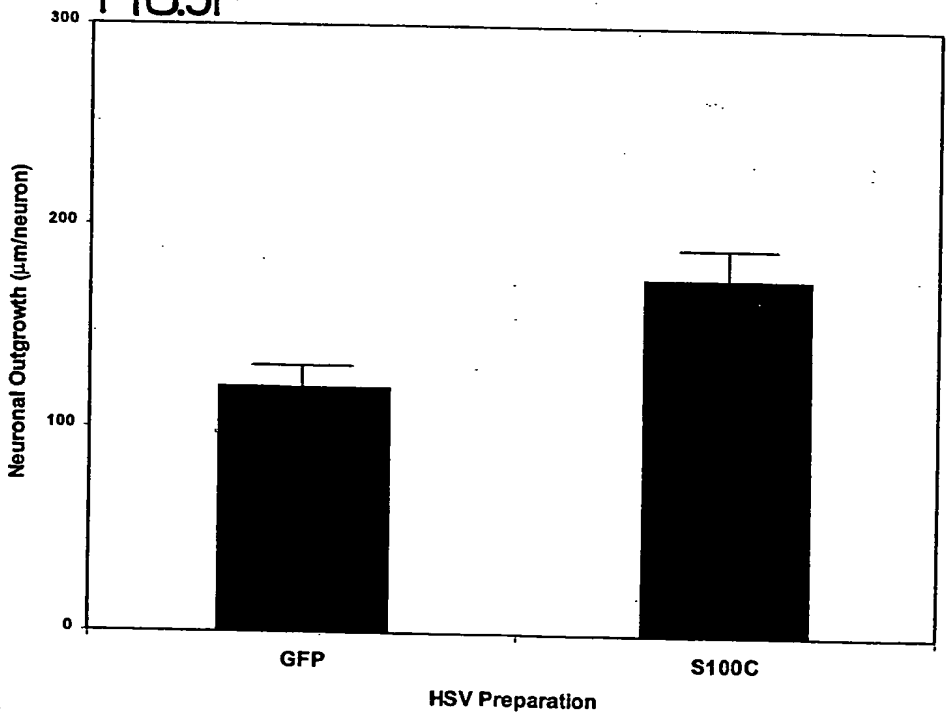

80
60
40
20
0
Neuronal outgrowth (μm/neuron)
NONE
GNT
SPRR1A
SPRR1A
Titration
+
+
+
-

FIG.5F


300
200
100
0
Neuronal Outgrowth (μm/neuron)
GFP
S100C
HSV Preparation

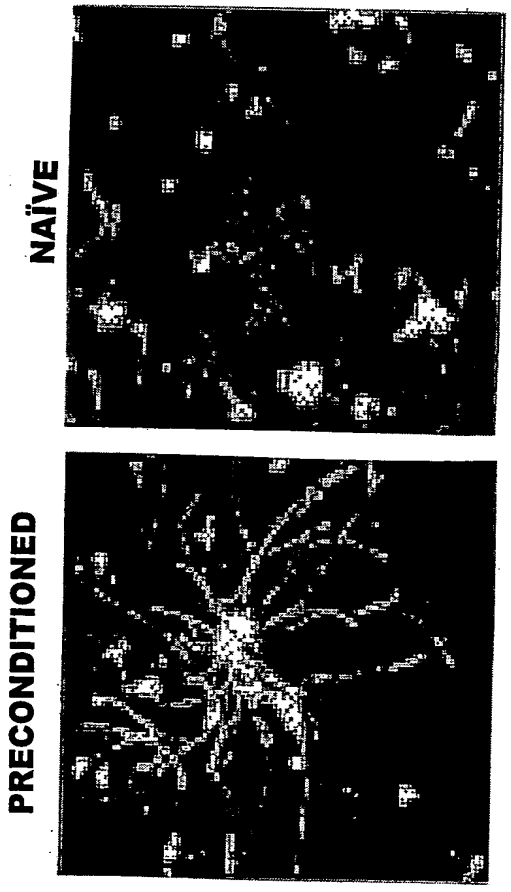


FIG. 6A

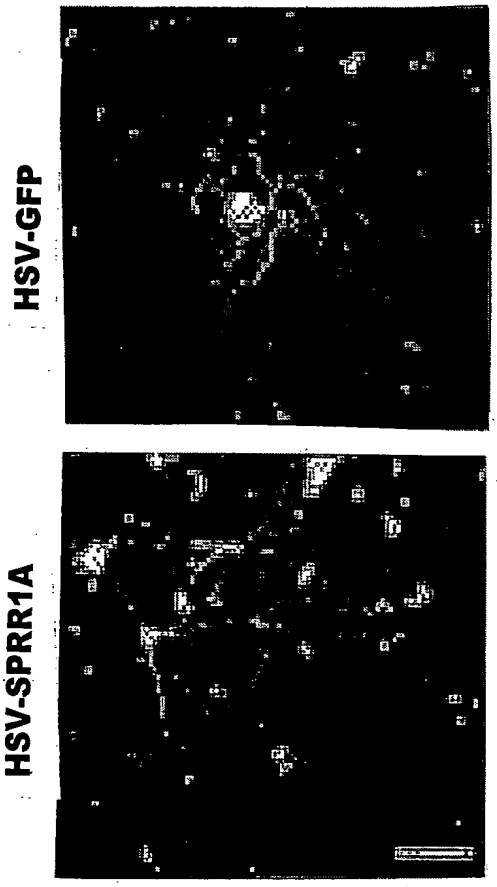


FIG. 6B

FIG.6C

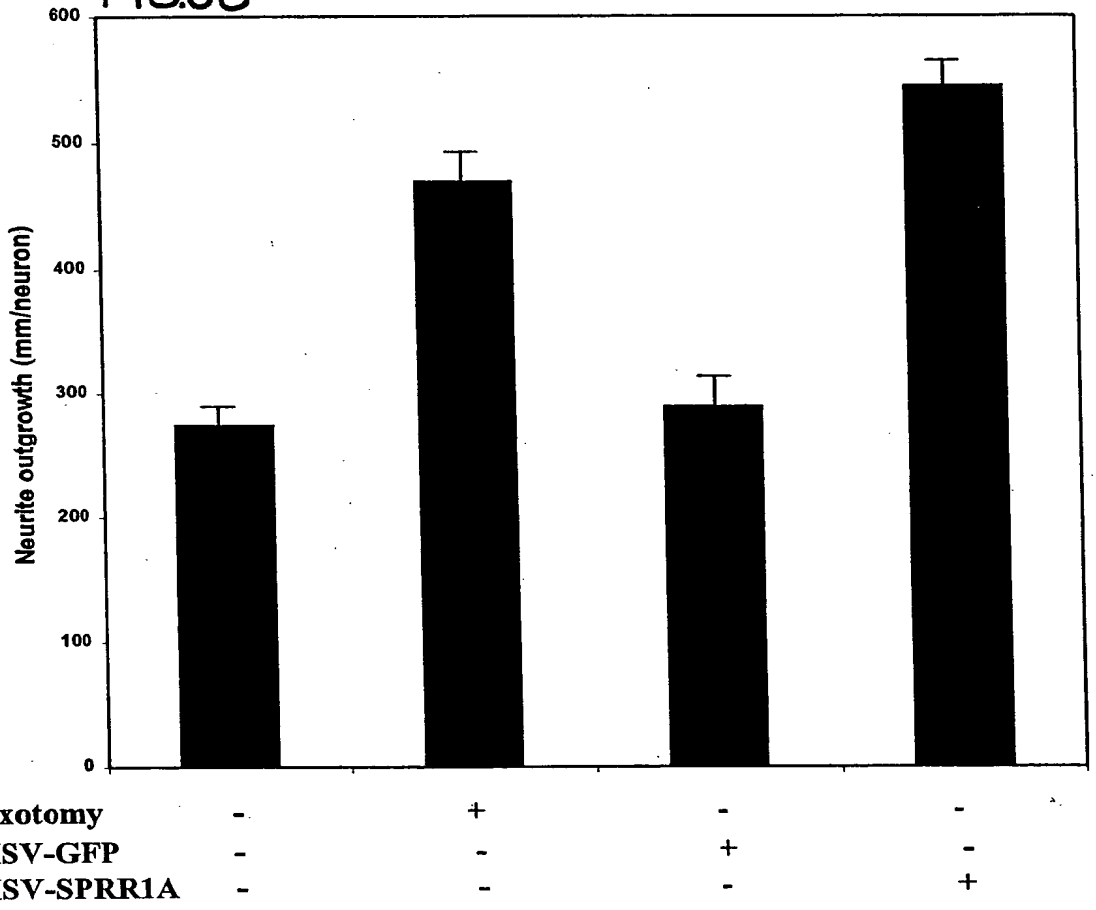

600
500
400
300
200
100
0
Neurite outgrowth (mm/neuron)
Axotomy - + - -
HSV-GFP - - + -
HSV-SPRR1A - - - +

FIG.6D

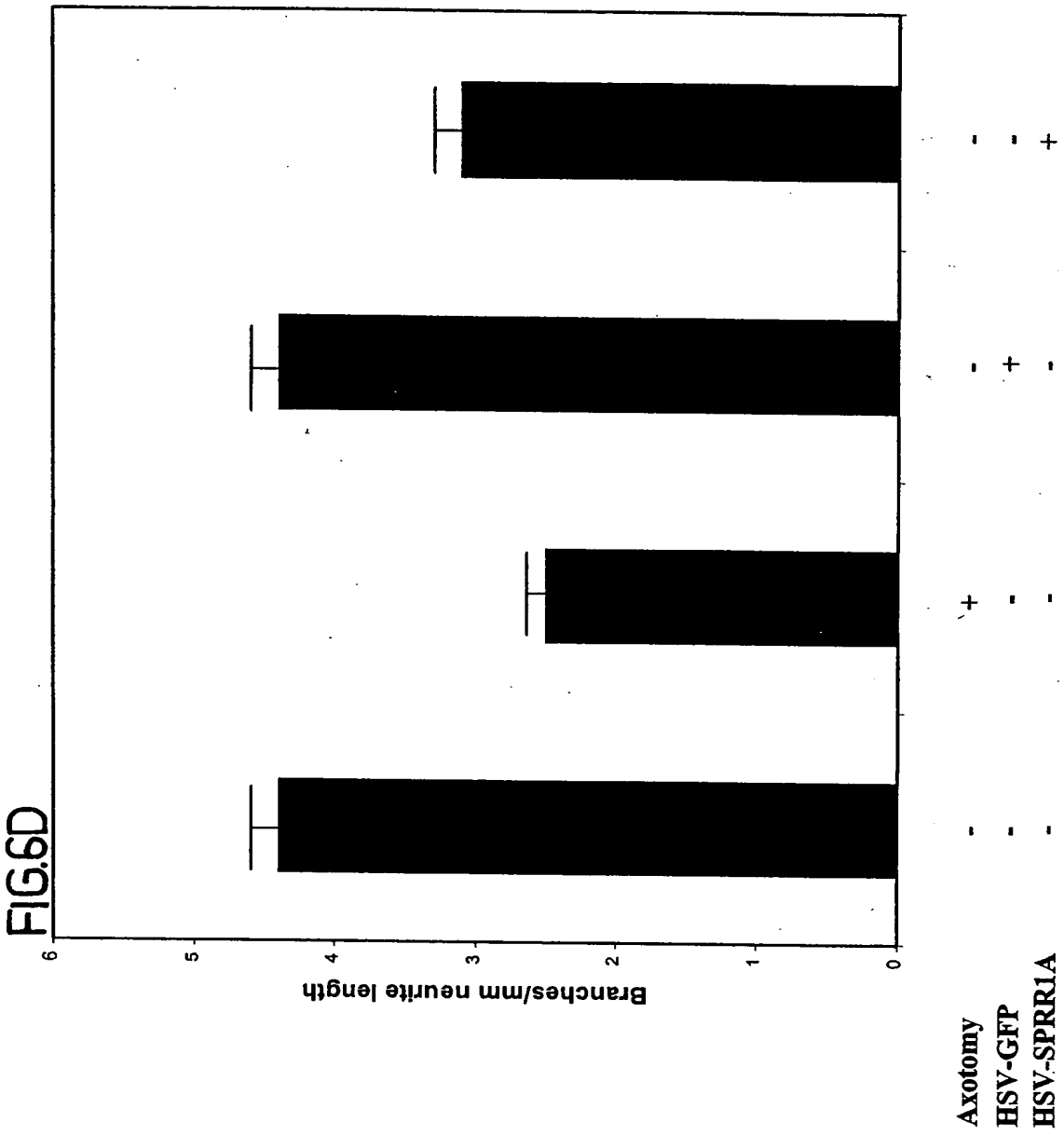

Branches/mm neurite length
0
1
2
3
4
5
6
Axotomy
HSV-GFP
HSV-SPRR1A
- - -
+ - -
- + -
- - +

FIG.6E

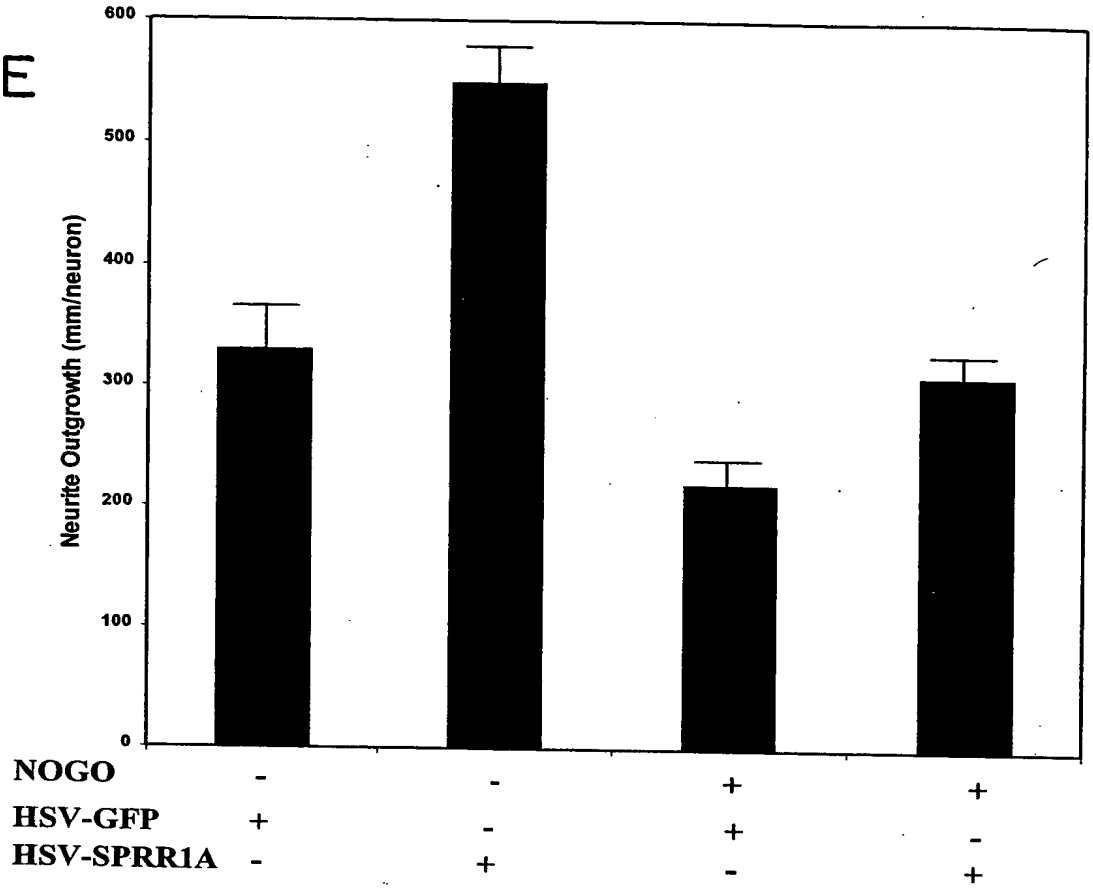
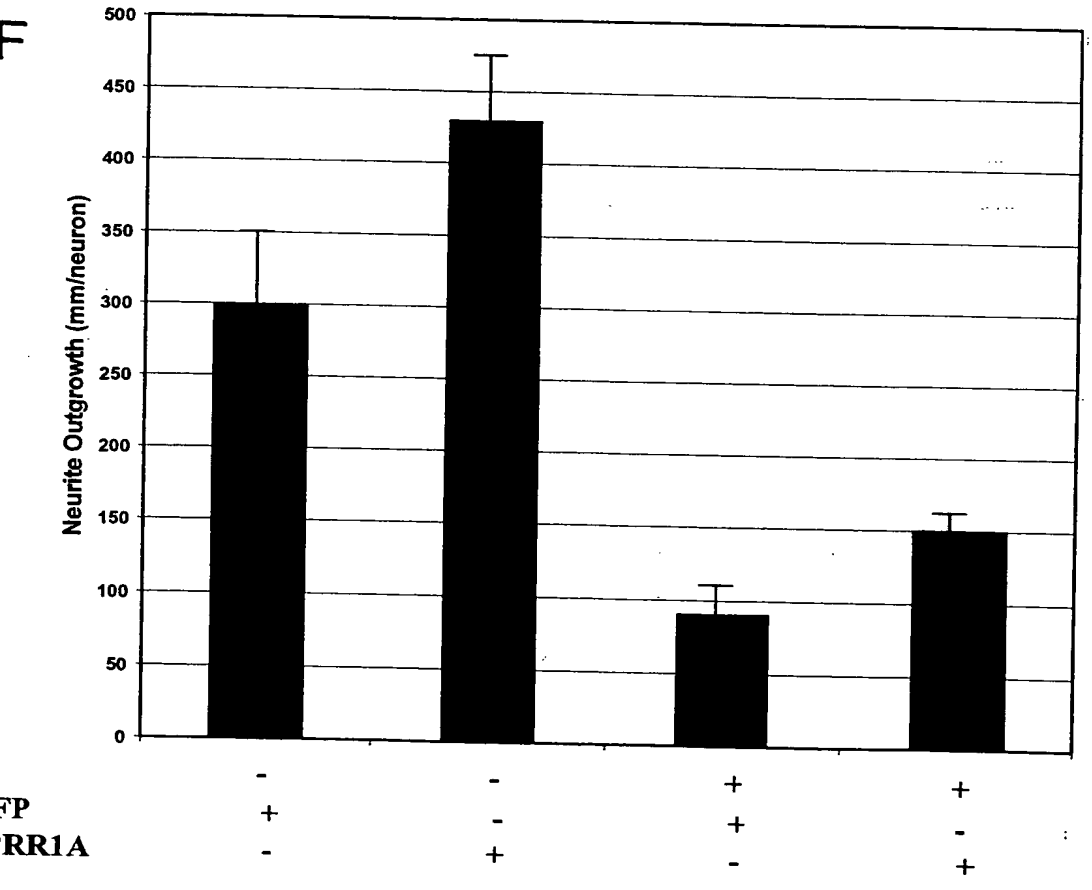

600
500
400
300
200
100
0
Neurite Outgrowth (mm/neuron)
NOGO - - + +
HSV-GFP + - + -
HSV-SPRR1A - + - +

FIG.6F


500
450
400
350
300
250
200
150
100
50
0
Neurite Outgrowth (mm/neuron)
Myelin - - + +
HSV-GFP + - + -
HSV-SPRR1A - + - +

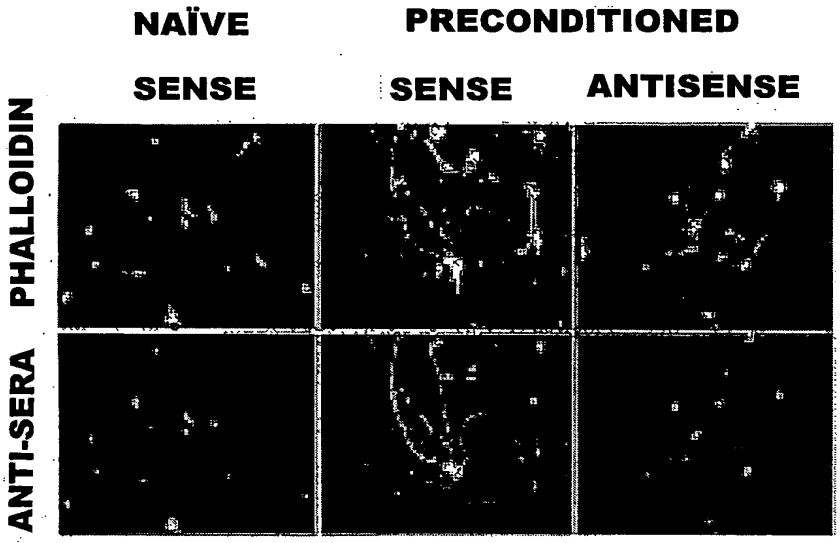


FIG. 7C

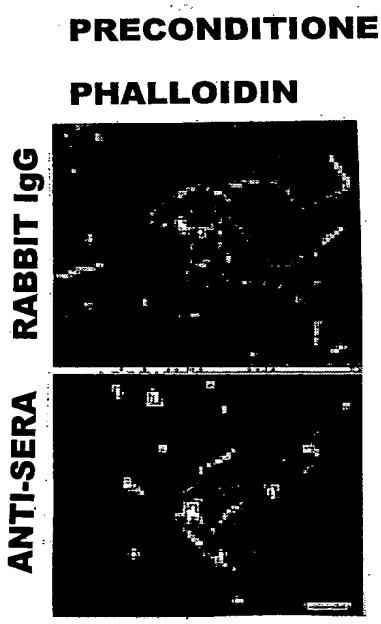


FIG. 7F

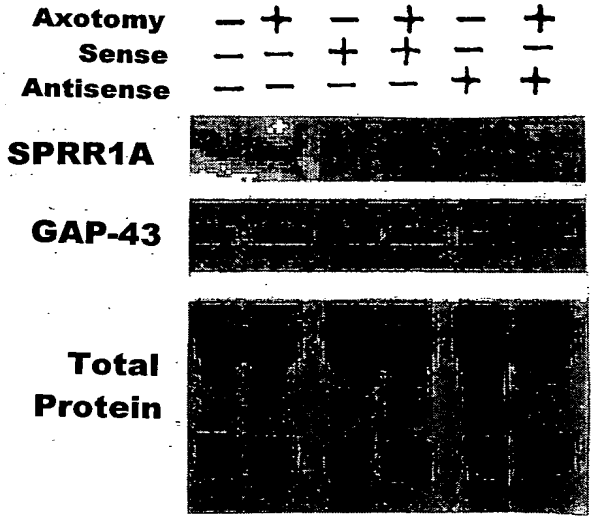


FIG. 7A

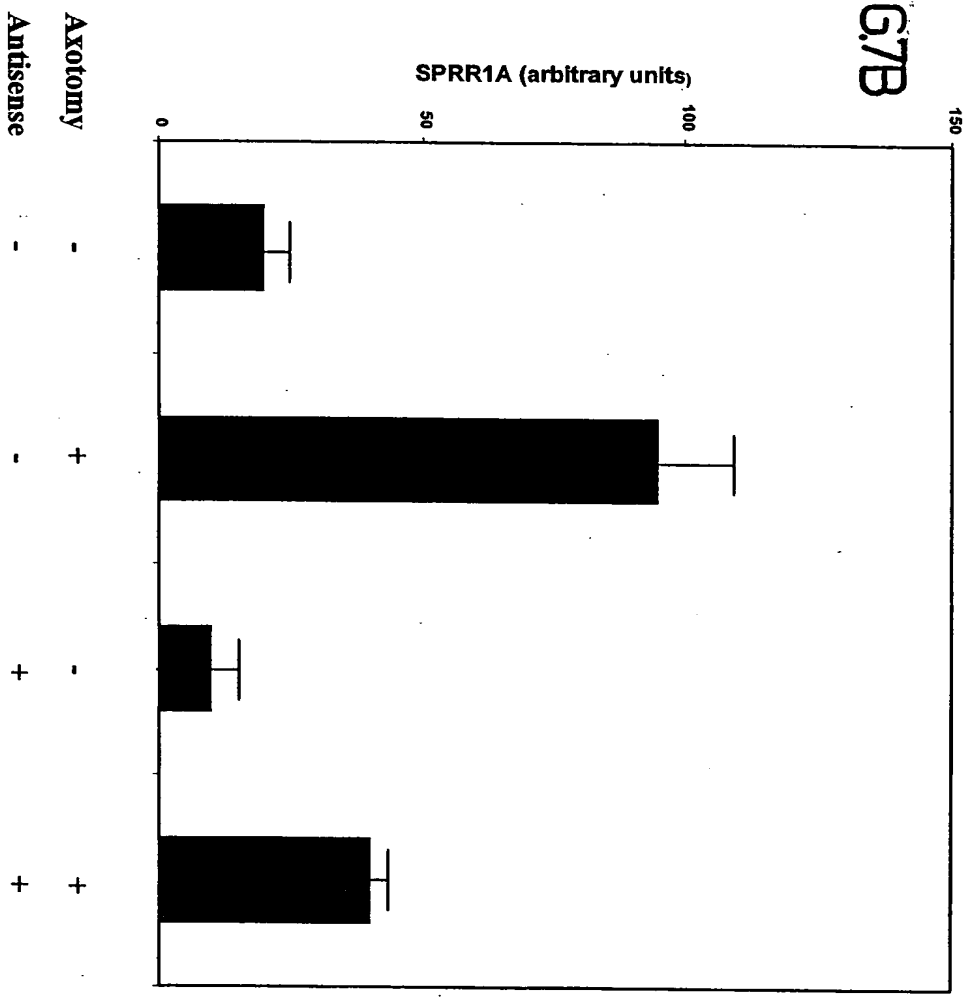


FIG.7B

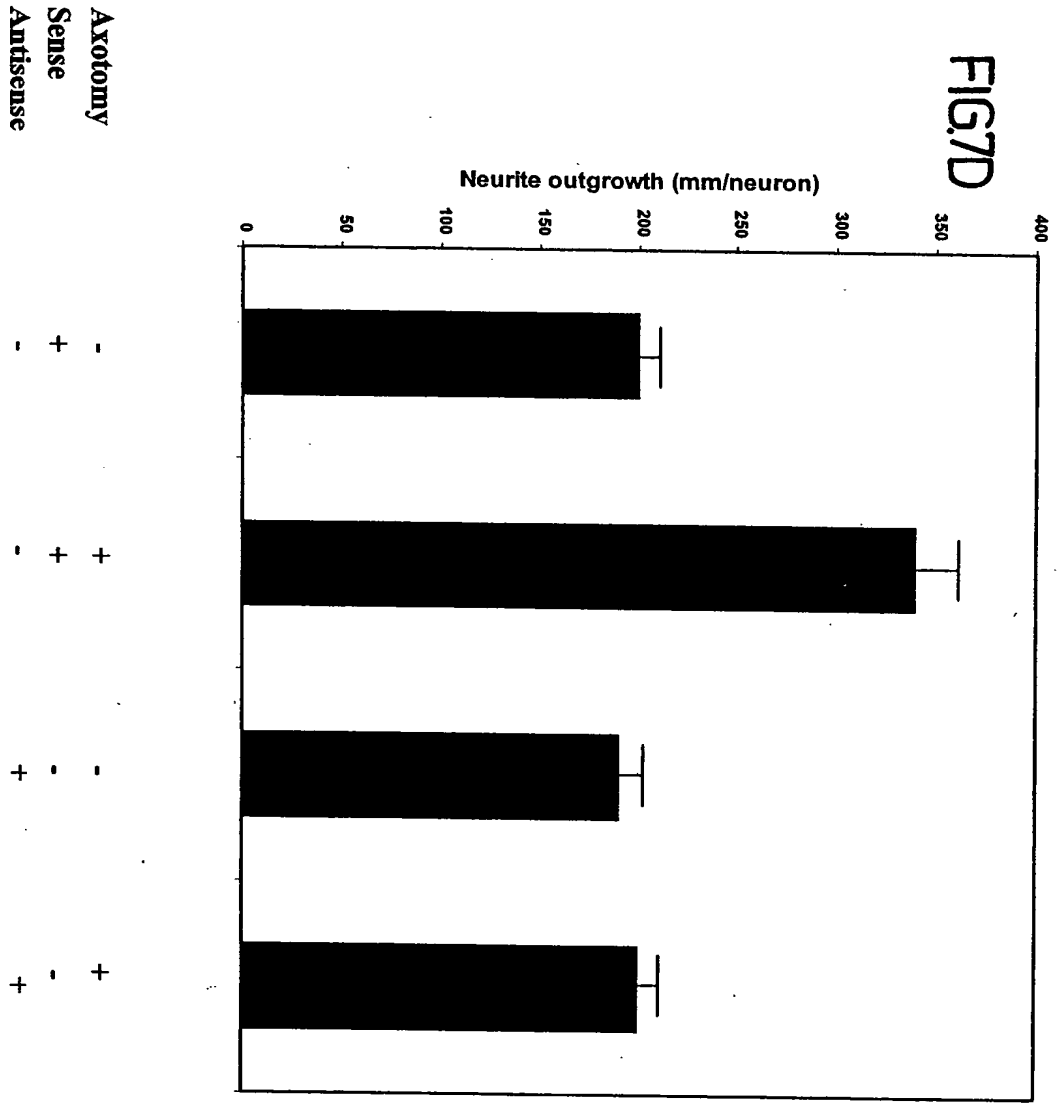

Axotomy
Sense
Antisense
- + -
- + +
+ - -
+ - +
Neurite outgrowth (mm/neuron)
0
50
100
150
200
250
300
350
400

FIG.7D

FIG.7E

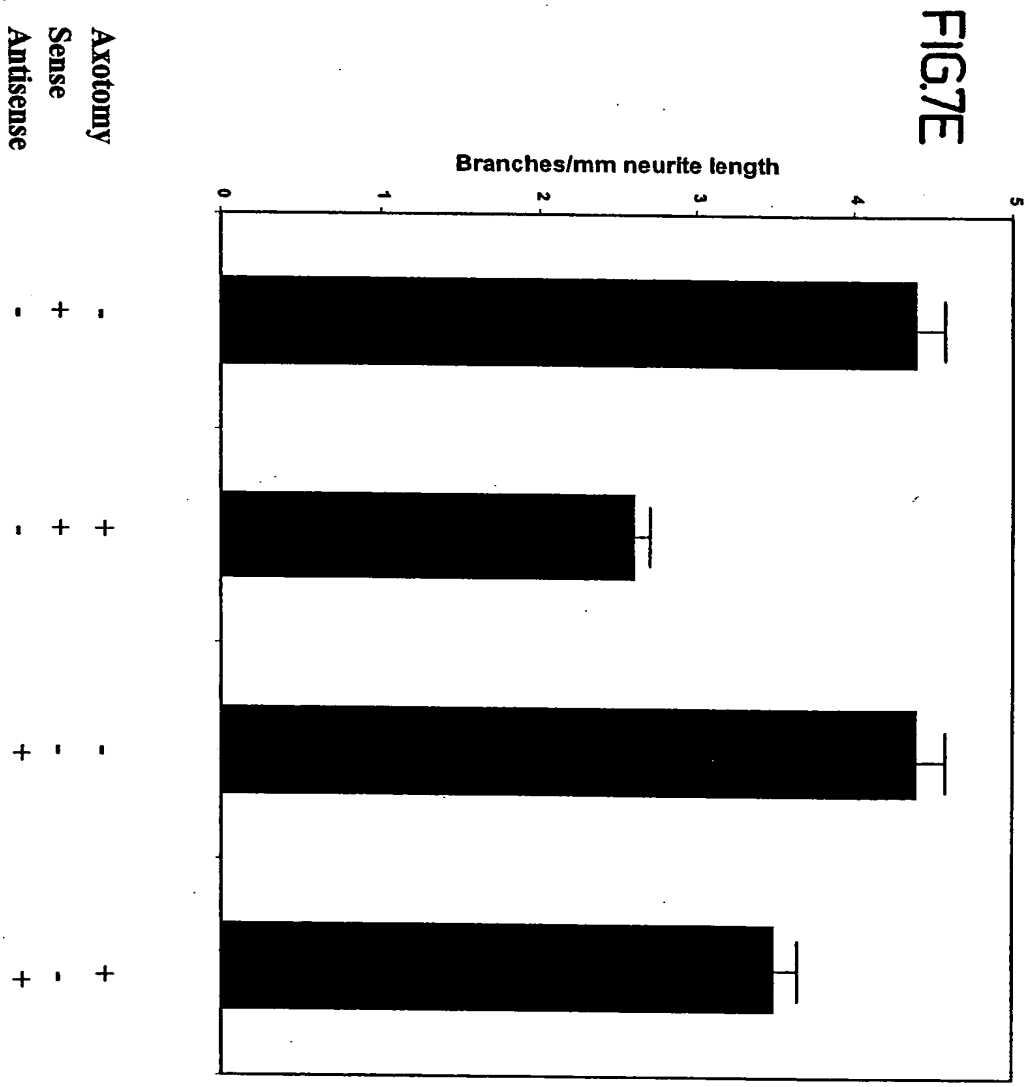
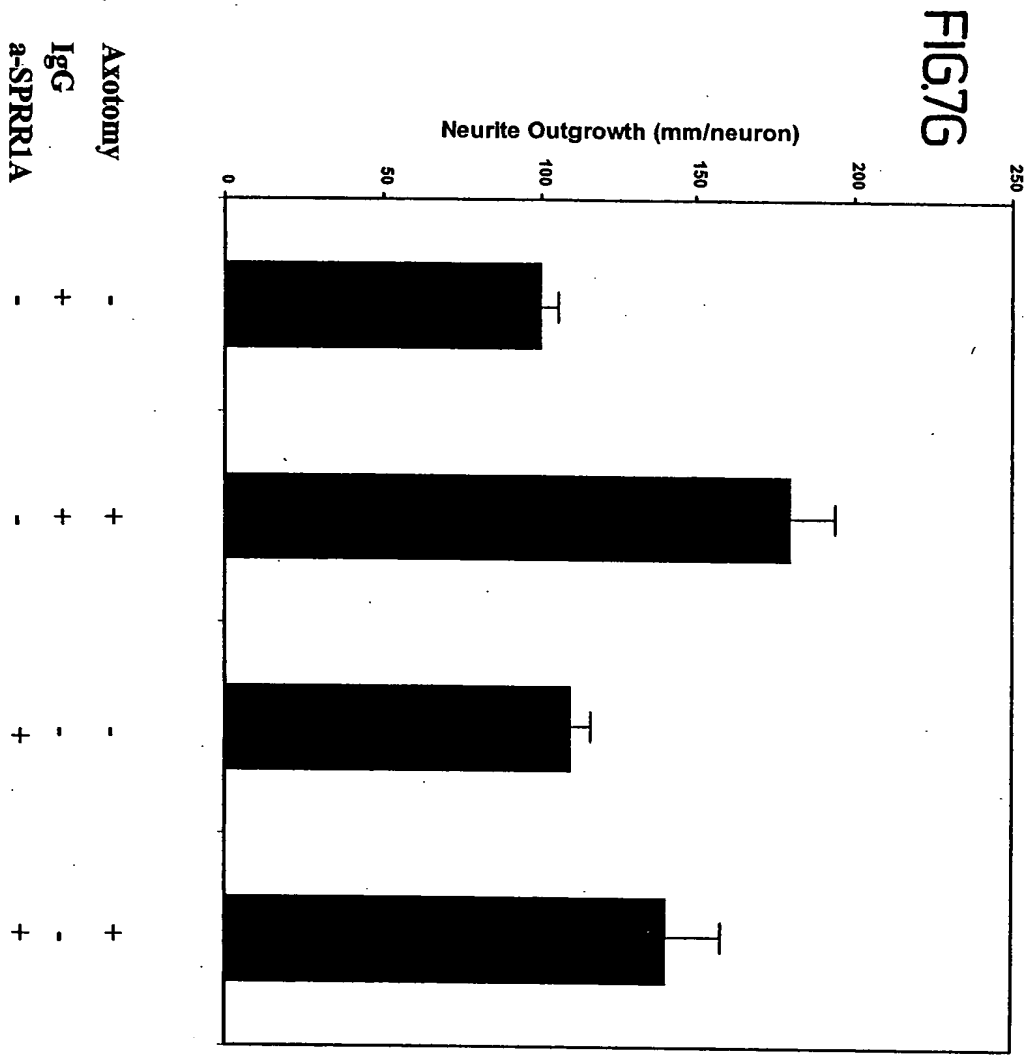

Axotomy
Sense
Antisense
- + -
- + +
+ - -
+ - +
Branches/mm neurite length
0
1
2
3
4
5

FIG.7G


Neurite Outgrowth (mm/neuron)
0
50
100
150
200
250
Axotomy
IgG
a-SPRR1A
-
+
-
-
+
+
+
-
-
+
-
+

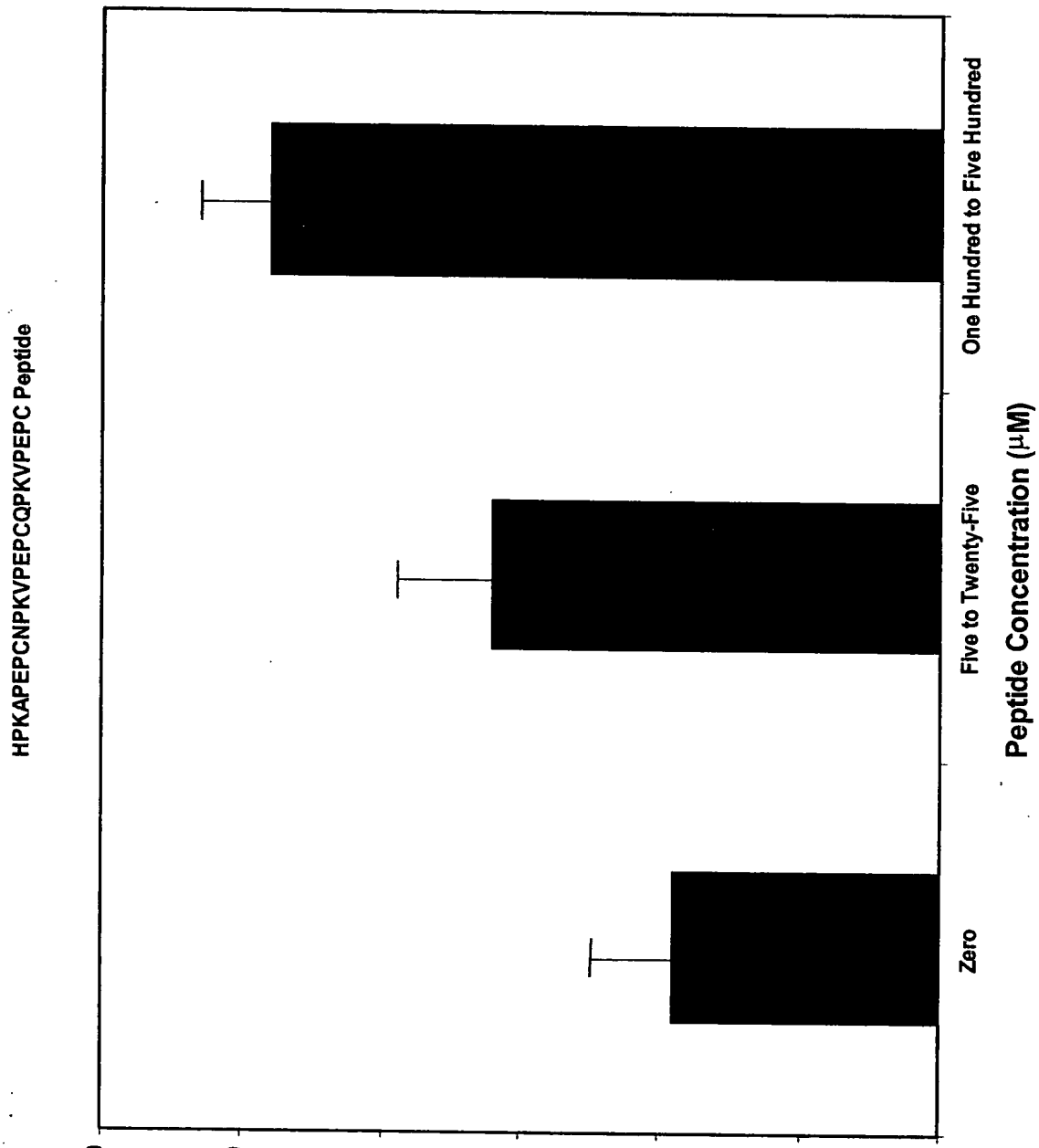

HPKAPEPCNPKVPEPCQPKVPEPC Peptide
60
50
40
30
20
10
0
Zero
Five to Twenty-Five
One Hundred to Five Hundred
Peptide Concentration (μM)

FIG.8